MILK Brief #28:
"Doing the Math" – Women's Health Microinsurance in Guatemala[1]

Studying Aseguradora Rural's VivoSegura Microinsurance in Quetzaltenango

In rural Guatemala, as in much of the world, women often attend to their own health needs only after their many family responsibilies and financial priorities have been taken care of. Yet their needs are often quite critical, especially in preventive health. In Guatemala, gynecological cancers are among the leading causes of death among women, at 29.2 deaths per 100,000 in 2011 (WHO, 2011). Despite this threat, Guatemalan women often lack access to quality preventive gynecological care due to their own liquidity constraints, inadequate and costly public health facilities (WHO, 2007), long distances, or social stigma. In 2011, with a grant from the ILO's Microinsurance Innovation Facility, Aseguradora Rural implemented a market study with low-income women clients to better understand their health needs, health spending and potenital demand for health microinsurance (Magnoni et al., 2011). The study identified an awareness of and strong concern by women about cancer and its devastating financial and emotional effects. It also revealed a high incidence of undetected gynecological infections. Finally, the study revealed that women often "patched" together health services through a variety of mechanisms for gynecological care or skipped care altogether (Ibid.).

In response, Aseguradora Rural developed the VivoSegura women's health insurance product, attempting to balance the health needs of low-income women, their concerns, and their limited capacity to pay. The product covers preventive and curative gynecological services, as well as cancer treatment with a fixed sum assured. It is bundled with a small life insurance policy. The product aims to improve access to preventive care and reduce overall health expenses by combining preventive care with insurance coverage of less frequent and more costly illness including precancerous cervical lesions and five most common cancers. The MicroInsurance Centre's MILK project team hypothesized early on that this low-cost microinsurance product would smooth cash flow pressure from preventive and early stage care. It could potentially also improve access to care as well as relieve some pressure on women's spending on health care for common outpatient care, diagnostics and early stage treatment of pre-cancerous lesions. In April and May 2013, the MILK Project implemented a Client Math study to better understand the value the product offers women clients based on these hypotheses. In this study, the MILK team partnered with Aseguradora Rural in Guatemala's second city Quetzaltenango (commonly known as Xela) to ask—**does microinsurance offer value by increasing women's access to preventive care against female cancers and other gynecological illnesses?**

[1] This brief was written by Derek Poulton and Barbara Magnoni (October 2013).

Our Client Math studies of health microinsurance in India, Tanzania, and Nigeria have found that both in- and out-patient coverage can add value by reducing the out-of-pocket cost of care and boosting access to quality services. In Tanzania and Nigeria, the financial and service value, in turn, appeared to incentivize more timely and regular health-seeking behavior for severe and chronic illnesses, respectively. Yet treatment is but one piece of the puzzle, especially for non-communicable diseases such as cancer. Prevention and early detection are critical to increasing survival rates and reducing overall costs. Despite the clear advantages of preventive care, many Guatemalan women do not practice it. Misinformation is rampant. For example, many women do not know what a Pap smear is or what it is used for. Among those who do know, fear of discovering an illness they cannot afford to treat keeps many women from screening, while others fear the reproach of husbands, relatives, or neighbors who associate visiting the gynecologist with promiscuity (Magnoni et al., 2011). These barriers to women's health care are echoed in many other contexts around the world, especially in low-income countries (Walraven et al., 2005). In free public health centers lines are long, supplies are scarce, and service quality is low. Meanwhile private gynecologists often charge high consultation and treatment fees. Finally, specialists are rare in rural areas, and women may need to miss work or family duties to visit the nearest gynecologist up to several hours away, further adding to the cost. Aseguradora Rural's health microinsurance product VivoSegura thus seeks to increase access to high-quality, relatively low-cost private preventive care by covering the full vertical sequence of diagnoses and treatments related to common women's cancers.

Our study finds that **VivoSegura improves access to high quality services for some and promotes preventive practices by others (who visit doctors). However, the main quantifiable value of its preventive cover may be in smoothing consumption by financing basic care through monthly premiums. VivoSegura's greatest client value, on the other hand, may lie in its longer term (but difficult-to-measure) impact on preventing serious illness and saving lives.** A small number of patients are accessing care that was otherwise unavailable, and there is great potential to extend education and awareness efforts to ensure usage of preventive diagnostic tests, though this has fallen short in the early stages of the program. Anecdotal evidence suggests that in the event of a more serious diagnosis, financial value appears to increase, though few cases have been observed to date.

Methodology

The primary objective of this study was to understand the costs incurred and financial tools used by women to conduct a routine gynecologist visit (and treat any basic problems detected) with and without insurance. Using MILK's Client Math methodology, we interviewed 25 women with VivoSegura and 31 women[2] without women's health coverage in Quetzaltenango who had visited a private gynecologist in the previous six months. Respondents answered a 45-minute questionnaire in branches of Banrural or in their homes, and received a small gift for their time. Our surveys began with a detailed breakdown of costs related to their gynecologist visit, followed by questions about how they financed those costs. We also asked questions about the quality of service, preventive practices, and general impressions about insurance.[3]

[2] We excluded three insured cases and seven uninsured cases for women who sought attention for issues related to pregnancy, childbirth, and ovarian cysts, conditions which go beyond the scope of VivoSegura's vertical coverage and required costly interventions that skewed the averages.

[3] For a description of the Client Math methodology, see MILK Brief #9: What is Client Math? (Magnoni, McCord, & Zimmerman, 2012)

Product

Aseguradora Rural's VivoSegura is a voluntary microinsurance product providing access to quality health care for women savings account clients of its affiliated bank Banrural, between 18 and 65 years old (or through 70 years old at half coverage by renewal) through a nationwide network of doctors and clinics managed by EPSS. [4] The product's cashless coverage includes up to two gynecologist consultations and one Pap smear per year, as well as other basic diagnostic tests. Colposcopy, cryotherapy, LLETZ cone biopsy, hysterectomy, and fine needle breast biopsy are covered as ordered by the network gynecologist. If the client is diagnosed with any of five cancer types, she receives a USD 3,000 cash payout, intended to finance direct or indirect costs of treatment. A small USD 780 life insurance benefit is also included in the case of the policyholder's death. In addition, clients receive discounts on certain medications from a national pharmacy chain, and discounts on other non-covered laboratory tests and other procedures through the EPSS network of physicians and laboratories. To use health benefits, clients must call the EPSS toll-free number and schedule an appointment with the nearest network provider. Table 1 summarizes the coverage and benefits. The USD 46.75 annual premium can be paid up front but is usually collected monthly through an automatic debit to checking or savings accounts at Banrural.

Table 1: VivoSegura Coverage

Cash Benefits	
USD 780	Sum assured for death by any cause
USD 3,000	Fixed payment upon diagnosis of: breast, ovarian, cervical, uterine, colorectal, and stomach cancers
Health Services	
2 annual	Gynecologist visits
1 annual	Diagnostic tests and treatments: Pap smear, urine culture, colposcopy, cryotherapy, fine needle breast biopsy
Discounts	
Varied	Discounts on listed medications at Farmacias Batres stores
Varied	Discounts on other diagnostic and curative procedures at EPSS providers

Insured and Uninsured: Who are they?

Insured and uninsured respondents are divided by an age gap that affects their attitude toward preventive health. Respondents from both groups were women in Quetzaltenango and surrounding communities between 18 and 65 who had recently visited the gynecologist for a routine visit. Yet as Table 2 shows, there is a significant age gap between the two groups. The insured are older and therefore are more likely to be married, have fewer children at home, have fewer years of education, and enjoy more personal and household income. The uninsured are younger, less likely to be married, more educated but make less money and have more children at home. This gap may reflect the fact that women in or approaching middle age are more concerned about, and possibly more aware of the need for, preventing cancer, and thus more motivated to acquire VivoSegura. It may also reflect the demographics of Banrural's savings clients, the target market for VivoSegura.

The household income gap between the two groups is significant,[6] possibly reflecting the tendency of Banrural savings account clients to come from higher-income families. Patterns of employment were roughly similar, although the insured and their family members were much more likely to work as civil servants, while many more uninsured than insured worked in the service sector. Asset holdings were also roughly similar: just over half in both groups owned their homes, and similar

Table 2: Socioeconomic statistics of the two groups

Sample	Insured n=25	Uninsured n=31	P[5]
Respondent age (average)	42.2	36.2	0.058
Respondent marital status (% married)	72%	58%	0.283
Respondent education (average years)	9.8	11.0	0.377
Respondent income (average USD)	273	221	0.505
Household income (average USD)	720	494	0.017
Household size (average)	4.2	5.5	0.060
No. of children at home (average)	1.3	1.9	0.095

[4] Empresa Promotora de Servicios de Salud, a health care network administrator.
[5] A p-value below 0.05 indicates a statistically significant difference between the two groups.
[6] Statistically significant within 5%. The difference in monthly household spending, however, is not, with a p-value of 12%.

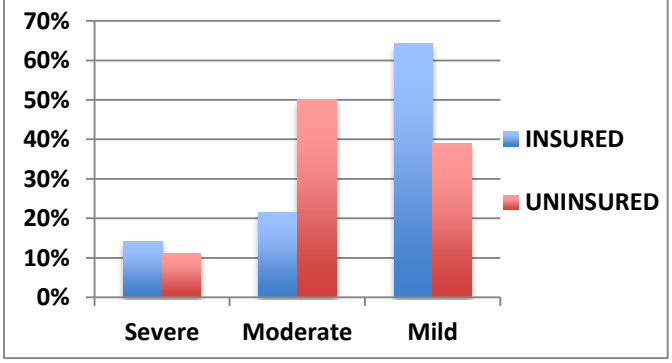
percentages of each group owned key assets, although the more affluent insured were more likely to have motor vehicles or bicycles while the uninsured more likely to have poultry or other small animals.

Insurance, Health Seeking Behavior and Cost of Care

Based on their reported symptoms, respondents in both groups had a variety of reasons, both preventive and curative, for seeking "routine care." Overall, a slight minority of respondents' visits can be considered strictly preventive (44% of insured and 32% of uninsured). In general, the practice of regular preventive checks is not deeply rooted in Guatemala. Among insured women, 68% claimed to see the gynecologist once or twice a year and most of them received Pap smears. Still, there exists a sizeable minority (16%) who had never seen a gynecologist prior to buying the insurance, mostly women in their twenties. Among uninsured respondents, the same proportion (68%) conducted annual or biannual visits to the gynecologist, although they were less consistent in their usage of Pap smears (possibly due to the younger average age), and only 6% of uninsured women reported never having gone to the gynecologist. This suggests that, among the clients we interviewed, the product has not provided a substantial new incentive to seek preventive care more regularly, as these women were already doing so before enrolling in insurance. This reflects expectations about the product's value: in its early stages of implementation, it is expected to cover "low hanging fruit" (women who already use preventive care regularly and recognize its value) and to provide access to better quality private care for those women. As experience with the product develops over time, it is expected that more women who did not previously seek preventive care will begin to do so. Nonetheless, even among women who sought regular preventive care before they had insurance coverage, the product seems to offer some positive behavioral incentives.

Differences in the symptoms reported by the insured and the length of time they waited to visit the doctor point to positive behavioral incentives to seek care; the uninsured went to the doctor only after waiting longer or experiencing more serious symptoms. 56% and 58% of insured and uninsured respondents respectively experienced some symptoms prior to visiting the doctor, commonly painful or bloody urination, menstrual irregularity, or abdominal and pelvic pain. Most insured women with symptoms said the symptoms did not affect daily activities while most uninsured women with symptoms said their symptoms affected their daily activities somewhat. Insured women with symptoms were also more likely to report "mild" symptoms prior to visiting the doctor than uninsured women (see Figure 1). These differences seem to reflect a behavioral incentive created by insurance coverage to "use it or lose it": since the insurance has already been paid for, clients may feel compelled to take advantage of their coverage and have less to lose by using it at early stages. The uninsured, by contrast, may feel greater pressure to delay or avoid seeking care in the hope that early or mild symptoms will go away.

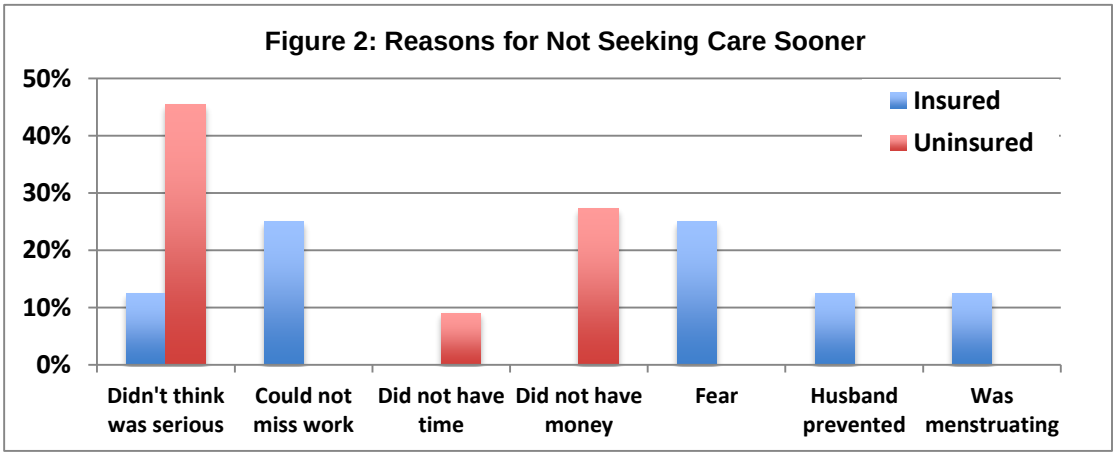
Figure 1: Severity of Symptoms Prior to Visiting Doctor (Self-Reported)



We also found that insured respondents in our sample tended to **seek care sooner**, waiting just 14.7 days on average before seeking care compared to 17.6 days among uninsured women. While the difference is not statistically significant, the shorter waiting times are also suggestive that the insured have greater incentives to seek care or "use it or lose it" once they purchase insurance. We observed similar incentives

in our study of outpatient care in rural Tanzania (MILK Brief #22[7]), in which insured patients sought care for communicable diseases on average 2 days sooner (three days instead of five days) after falling ill than the uninsured in our sample. Similarly, in Lagos, Nigeria (MILK Brief #24[8]), we found that insured patients who had been diagnosed with hypertension sought care more frequently and more regularly and had better drug adherence than their uninsured counterparts.

These behavioral incentives are especially interesting in the context of rural Guatemala, where financial, cultural and emotional constraints can influence a woman's decision to delay gynecological care. When asked, insured and uninsured respondents gave a broad range of reasons for delaying care. These included, for the insured, the inability to miss work, fear of illness, and having a husband who had sexist attitudes toward reproductive health. The uninsured cited the same influences, but many also cited financial constraints that were less of a burden to the insured (see Figure 2). The many reasons for delaying or avoiding care highlight some of the complexities of covering women's health care needs in these communities.

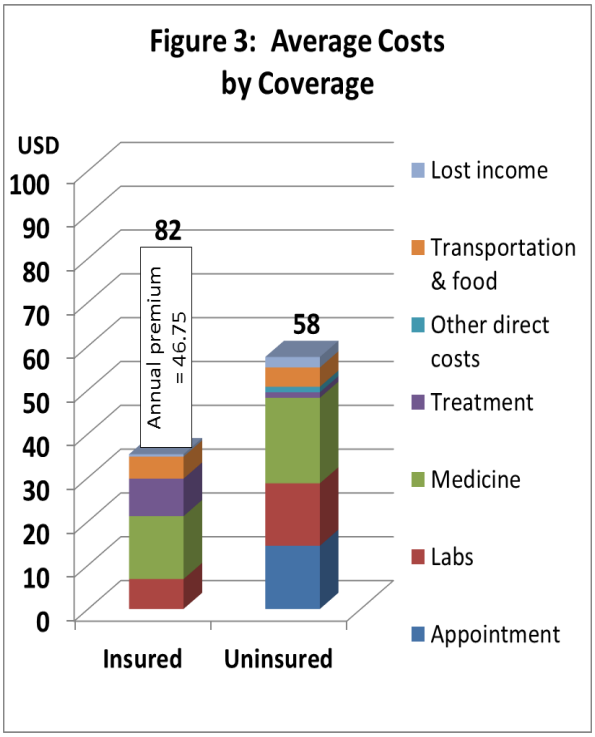


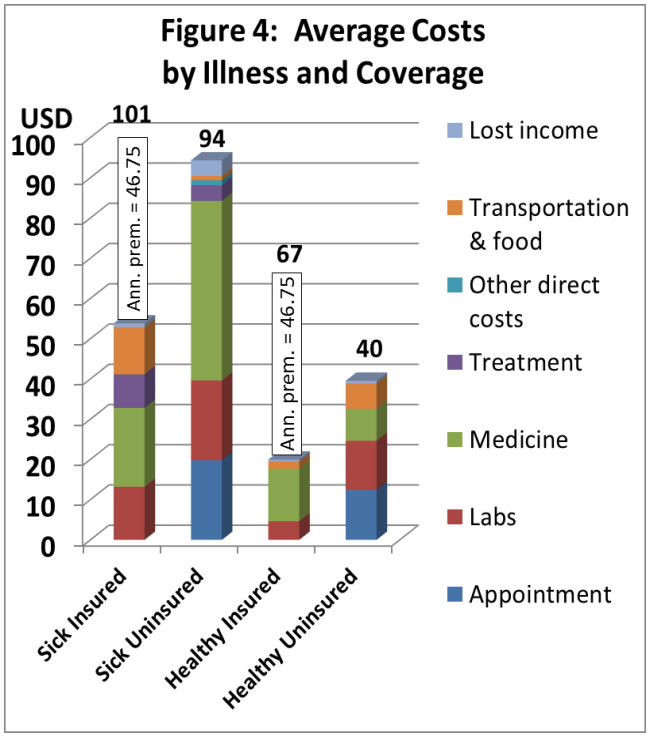
The positive health seeking behavior of covered individuals actually reverses when we consider behaviors in seeking follow-up care. Fifteen insured patients received recommendations for a follow up visit, yet only 2 went and another 2 were still waiting for an opportunity to go. Many of these follow-up visits would have fallen outside of the product's coverage, and financial concerns were commonly cited as a reason for skipping them. The uninsured were similarly unlikely to access recommended follow-up care: of the 22 who were recommended for follow-ups, only 4 went and 7 were still waiting to make appointments. We found a similar pattern in our Client Math study of hospitalization in India (MILK Brief # 12[9]), where the insurance covered only hospitalization and did not cover follow up visits, which were largely skipped by insured and uninsured patients alike. These gaps in seeking recommended follow-up care may limit the health impacts that insurance seeks to achieve, but reflect non-financial barriers women face to seeking care as well as the (necessarily) limited nature of the product's coverage. The non-financial barriers cited above remain significant, and may deter many of these women from following through with recommended treatment. In addition, an unsubsidized product such as this one requires limited coverage and thus leads to difficult tradeoffs in product design. As a result, much of the recommended care fell outside of the product's coverage, leading to financial barriers to seeking this follow-up care, even among the insured.

For covered services, insured women spent less on direct costs overall, but accounting for the annual insurance premium puts their total outlay higher than the uninsured (though the difference is not statistically significant) (Figure 3). Figure 4 suggests that the "sicker" one gets, the more value the product begins to demonstrate. "Healthy" users of the product (who visited the gynecologist for preventive services) had the least financial benefit when we include the cost of the insurance premium. "Sick" users of VivoSegura spent only slightly more than the uninsured when we account for the cost of an annual insurance premium. It is important to note that these "sick" users had relatively minor illnesses and

[7] Magnoni, Budzyna, Sobol, & Zimmerman, 2013.
[8] Budzyna, Chandani, & Magnoni, 2013.
[9] Magnoni, Zimmerman, & Chandani, 2012.

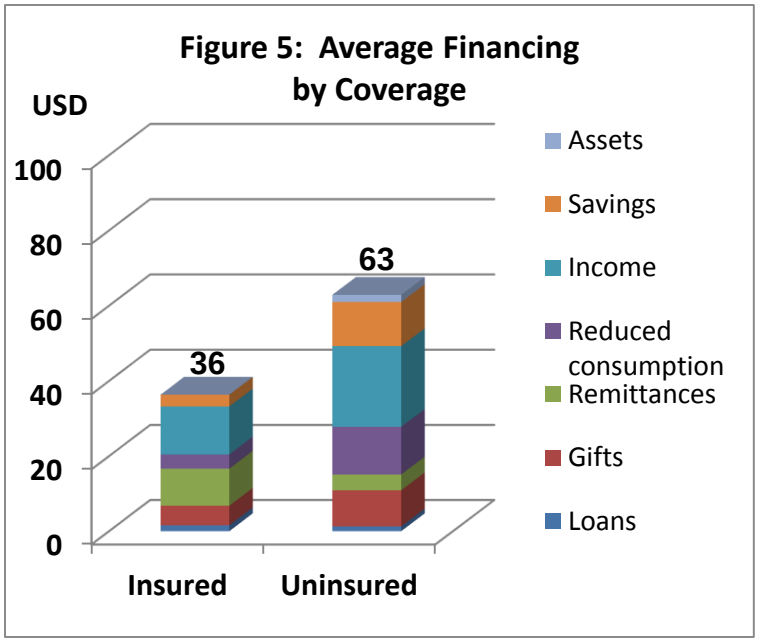
did not make claims on some of the high-benefit features of the insurance. Financial benefits were clearly greater for the more sick, even when we account for the insurance premium. **Nonetheless, insured women in both the "sick" and "healthy" groups seem to have received some financial value from the product in the form of the cash-flow smoothing we describe below.**





Financing Health Costs

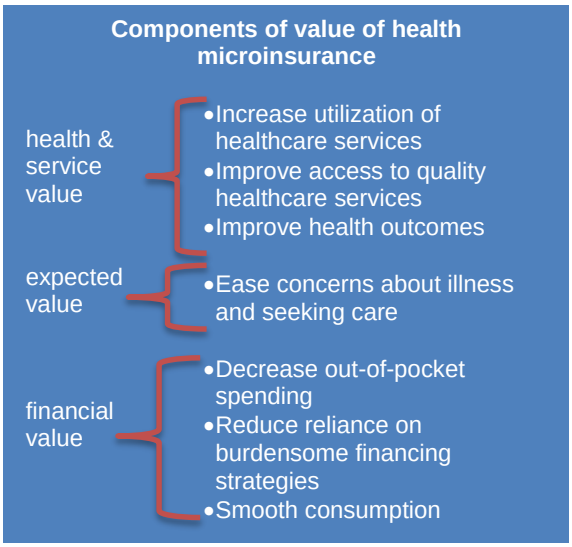
Financing patterns of the insured and uninsured suggest that lower out-of-pocket costs at the time of the illness reduced the financing burden on the insured. Insured women used primarily income and cash transfers from friends and family (gifts), while uninsured women made up the difference with more difficult and burdensome strategies in higher amounts. Figure 5 shows average financing sources for each group. The insured slightly underfinanced while the uninsured slightly overfinanced their total costs. Household income, either the respondent's own or her spouse's, was the most common source, used by 36% of the insured. While cash gifts were only used by 12% of the insured, one individual's receipt of a USD 247 remittance (also covering treatment and other costs) pushed the average higher for this category. Reduced consumption was minimal. Overall, the financing sources used by the insured do not appear to be burdensome. This was not so for the uninsured, who had to resort to more burdensome financing strategies to pay for their gynecological care. Household income and reduced consumption were each used by 55% of uninsured respondents, but in higher



average amounts. Economizing on food expenditures to pay for the visit may have been a burden for these families. Furthermore, the uninsured resorted to savings much more often than the insured (23% versus 8%). One uninsured respondents sold a small item for USD 58.

Was it worth it?

The primary *financial* value of VivoSegura in our sample was cash flow smoothing. Perhaps reflecting this perception of value, clients of VivoSegura generally perceived the cost to be affordable. Few clients (4%) perceive the premium to be expensive, and 64% actually believe it helps save money. Cash flow smoothing by paying a monthly premium and drastically reducing the lump sum that must be paid at the time of a medical visit likely plays a role in this perception. The use of more difficult financing mechanisms by the uninsured suggests that even these relatively low-cost health events (USD 40 to 98) can be a hardship on families' finances. This hardship is echoed in the uninsured women's relative reluctance to seek care promptly or for only mild symptoms.



While the product helped insured women reduce out-of-pocket spending for both preventive and curative services, they actually spent more after factoring in the annual premium cost, which most paid as a monthly deduction from their savings accounts. The math starts to tip as the complexity of the illness increases however, due to the combination of low and high frequency events covered in VivoSegura. Our interview with "Maria" (Box 1), in particular, is suggestive of great savings obtained for higher-cost events. By offering a product with "vertical" coverage (narrow set of illnesses but broad range of severity and services), rather than horizontal (narrow range of severity and services for broad set of illnesses), VivoSegura offers both tangibility and peace of mind. However, ensuring that clients understand, utilize and maximize the value of this complex mix is a challenge.

Box 1: When higher cost and complexity illnesses are covered: The case of Maria

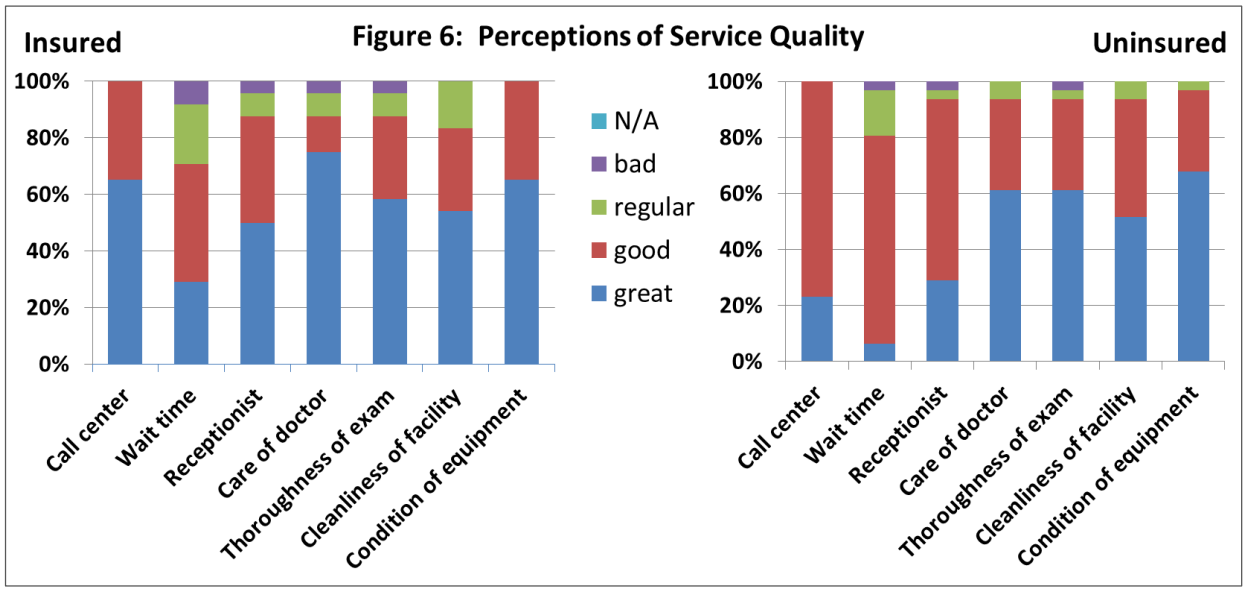
Client Math seeks to offer insight into a critical question about the value of insurance. The methodology can be suited to products that cover frequent financial shocks, or infrequent shocks when enough scale is achieved to offer a sample of beneficiaries that have suffered a shock. VivoSegura, however, is a relatively new product suffering from low utilization, which was primarily concentrated in the preventative and diagnostic outpatient services it covers. As a result, this study was not able to analyze its value to women who had had more severe diagnoses that required costly treatment or cancer, which was subject to a large cash payout. A look at one patient suggests that the study would show a different type of value.

"The Math" looks better as Illnesses are more severe

"Maria," a low-income woman with two years of formal education from a small village outside Quetzaltenango, purchased VivoSegura after a routine annual pap smear showed signs of pre-cancerous lesions on her cervix. Her doctor, affiliated with VivoSegura, encouraged her to purchase the policy to save money on cryotherapy and medications. Instead of paying those costs out-of-pocket, she paid USD 3.90 in monthly premiums, received free treatment, and spent USD 200 in indirect costs and medications. She believes that without the insurance her total costs would have been USD 600 through a private clinic. The public sector was an alternative, but one of low quality, long lines and hidden costs. Maria believes that she would have tried to borrow the money from informal sources to avoid public care, but for her household with food and utility expenses of USD 100 per month, this type of debt could have been devastating. While it may be viewed as some evidence of adverse selection, the insurer does not actively prohibit enrolling clients after they have been diagnosed with an illness, in light of the product's very low overall utilization and the positive publicity effects they can cause.

Our study reveals that the *expected* value of VivoSegura is mixed, since many clients who purchase the product attracted by specific coverage often do not use it promptly, while others do not even understand or know they have the coverage. Our Client Math study found a greater degree of worry about the cost of treatment and of cancer in general among insured than uninsured individuals, which suggests that the initial decision to purchase the insurance was driven by a need for some peace of mind. However, we also find that few policyholders have a good understanding of the product based on qualitative insights. Aseguradora Rural also surveyed clients who bout the policy through phone interviews, corroborating this perception. Additionally, while most clients claim they bought the policy for its preventive service, only 46% of clients surveyed by Aseguradora Rural had actually had a Pap smear since their coverage began, suggesting that there may be room for more promotional activity.

While part of VivoSegura's objective is to offer *service* value and extend access to high quality private care to low-income women, slightly less than half of our sampled respondents reported greater access to private care. 53% of insured respondents had used private providers prior to purchasing the insurance: 10% had used in-network providers, while 43% used other private doctors.[10] Of the remainder, 33% of insured patients had switched from using NGOs, which are seen as lower cost but often lower-quality, and another 15% switched from public or government insured facilities. Additionally, just 20% of insured respondents believed VivoSegura granted them access to better quality care than other solutions. This is consistent with respondents' **self-reported perceptions of quality of VivoSegura providers, which suggest that quality of care may not have improved significantly for patients with insurance.** Figure 6 highlights the perception of quality of insured and uninsured respondents, illustrating that the insured perception of quality of their facilities was slightly lower than that of the uninsured. One exception is the positive feedback from insured clients about the EPSS Call Center offered as part of the program to facilitate appointments.



A key component of service value, and perhaps the most difficult to measure, is its effect on health outcomes. Health impacts of insurance are difficult to prove, particularly in the short term. However, the screenings and other services covered by VivoSegura have been shown in other contexts to improve health outcomes such as cervical cancer survival rates (Sankaranarayanan et al., 2001). To the extent insurance encourages women to use these services sooner, more frequently, or more regularly, we expect that positive health outcomes will result, even if they are difficult to measure. On the other hand, product limitations, in particular limits on the number of follow up visits covered per year, may have discouraged the use of uncovered services by the insured.

[10] Some respondents used multiple options.

Finally, we note that **because our study focuses on the analysis of coverage of preventive care, it obscures an important benefit—the cancer and precancerous lesion cover**. To date very few cryotherapies and LLETZ conizations have occurred, and no cancer claims have been received, thus our Client Math methodology could not be used to investigate the value of those components of coverage. The illustrative interview with one insured cryotherapy patient cited in Box 1 above, however, does suggest that the product can offer important financial protection for more severe diagnoses. Indeed, 12% of insured respondents said they most liked that VivoSegura could prevent serious illness and save their life, a number that could increase with additional customer education efforts that enable clients to understand their coverage and encourage them to use its preventive services.

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Microinsurance Learning and Knowledge (MILK) is a project of the MicroInsurance Centre that is working collaboratively to understand client value and business case in microinsurance. Barbara Magnoni leads the client value effort and Rick Koven leads the effort on the business case. Contact Michael J. McCord (mjmccord@microinsurancecentre.org), who directs the project, for more information.